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Studiengesellschaft Kohle mbH
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Patent claims

1. A method for producing a material having a high specific surface area at high service temperature, the material, embedded in a matrix, selected from finely divided carbonaceous materials and/or silica gels, preferably being produced by thermal pretreatment, and the matrix then being removed, characterized in that the thermal pretreatment comprises heating to a temperature which is above the service temperature.

2. The method as claimed in claim 1, wherein the size of the material particles produced is upwards-limited by the matrix.

3. The method as claimed in claim 1 or 2, wherein the heating temperature is more than 100°C above the service temperature.

4. The method as claimed in claims 1 to 3, wherein the matrix of finely divided carbon is selected from activated carbon and ordered carbons.

5. The method as claimed in claim 4, the thermal pretreatment being performed under protective gas, and the carbon matrix being removed by a reactive gas atmosphere after the thermal pretreatment at a lower temperature.

6. The method as claimed in claim 5, wherein the reactive gas atmosphere comprises oxygen.

7. The method as claimed in claims 1-6, wherein the material is an oxide.

8. The method as claimed in claim 7, wherein the

oxide has a melting point above 1500°C.

9. The method as claimed in claim 7, wherein the oxide is an oxide of the elements Be, Mg, Ca, Sr, Ba, Al, Ga, Si, Mg, Ca, Sc, Y, La, Ti, Zr, Hf, V, Cr, Mn, Fe, Co, Ni, Zn, U, Th or the lanthanides, or a mixture of such oxides.

10. A material having a high specific surface area at high service temperature, which material is obtainable by the means that the material, embedded in a matrix selected from finely divided carbonaceous materials and/or silica gels, is preferably produced by thermal pretreatment, and the matrix is then removed, the thermal pretreatment comprising a heating to a temperature which is above the service temperature.

11. The material as claimed in claim 10, characterized in that, after thermal treatment in air at 1000°C over a period of 3 h, it still has a specific surface area of at least 10 m^2/g, in particular at least 50 m^2/g.

12. The material as claimed in one of claims 10 or 11, characterized in that it is used as supported catalyst.

13. The material as claimed in one of claims 10 to 12, characterized in that it comprises an oxide component and a metal component, the particles of the metal component having in the majority sizes less than 20 nm, and the metal component, if appropriate, being further able to be obtained by a reduction step from oxide particles of the corresponding sizes.

14. The material as claimed in one of claims 10 to 13, characterized in that it has particles of the

metal component having in the majority sizes less than 5 nm, in particular less than 2 nm.